

**North Atlantic Right Whale Recovery Plan
Southeast U.S. Implementation Team Meeting, June 10 and 11, 2014
Guana Tolomato Matanzas National Estuarine Research Reserve**

KEY OUTCOMES MEMORANDUM

I. Overview

The North Atlantic Right Whale Recovery Plan Southeast U.S. Implementation Team (SEIT) conducted a two-day meeting on June 10 and 11 at the Guana Tolomato Matanzas National Estuarine Research Reserve in Northeast Florida. The SEIT's Forum was conducted from 9:00am to 4:50pm on June 10th and was open to the public. The SEIT deliberated from 9:00am to 3:40pm on June 11th. The Forum agenda was planned with input from the SEIT in order to facilitate priority information updates and discussion with participants and SEIT members. Agendas from both days are attached. The June 11th SEIT deliberations focused on the following primary objectives:

- SEIT business
- Forum Review
- Aerial Survey Revision
- Mid-Atlantic Right Whale Recovery
- Contingency Funding Ideas

This Key Outcomes memorandum summarizes the primary results of the SEIT deliberations on June 11th. In general, the synthesis integrates the main themes discussed at the meeting and are presented in five main sections: Overview, Participants, Meeting Materials, Key Outcomes, and Next Steps. The Key Outcomes section is further segmented into the following six sections:

- Welcome and Meeting Kick Off. This section provides a brief overview of meeting, purpose, and agenda overview.
- SEIT business.
- Focused SEIT discussions.
- Consensus Actions. This section summarizes consensus actions to be taken by the Team.
- Consensus Recommendations. This section summarizes consensus recommendations of the SEIT.
- Other. This section summarizes other topics discussed during the meeting.

II. Participants

The SEIT meeting was attended by 12 of the 13 Team members Nancy Allen, Gerald Baldwin, Lance Garrison, Clay George, Bill Kavanaugh, Amy Knowlton, Bill McLellan, Katie Moore, Becky Shortland, Leslie Ward-Geiger (Team Lead), Tom Wright, and Sharon Young –Mike Getchell was unable to attend. Barb Zoodsma, Laura Engleby, Zach Cress, and Jim McLaughlin represented

NOAA Fisheries. Caroline Good was invited to participate as a subject matter expert during the SEIT's deliberation on right whale recovery in the mid-Atlantic.

III. Meeting Materials

The following meeting materials were provided to SEIT members:

- The final draft meeting agenda was distributed via email prior to the meeting and a final agenda distributed at the meeting.
- A draft revised Terms of Reference was distributed and discussed via email prior to the meeting.
- Forum meeting presentations in pdf, including:
 - B. Zoodsma's presentation on the 2013/2014 survey lines
 - T. Gowan's presentation on the predictive model for 2013/2014 season
- A publication: Gowan TA, Ortega-Ortiz JG (2014) Wintering Habitat Model for the North Atlantic Right Whale (*Eubalaena glacialis*) in the Southeastern United States. PLoS ONE 9(4): e95126. doi:10.1371/journal.pone.0095126
- Graph illustrating the discovery rate of photo-identified right whales in 2013/2014 calving season prepared by T. Gowan
- Draft graph illustrating the "discovery rate" of biopsy-sampled right whales in 2013/2014 calving season prepared by C. George
- The draft "SEIT Recommended Strategy for Enhancing North Atlantic Right Whale Recovery Efforts in the Mid-Atlantic Region" annotated with comments from NMFS.
- A number of documents associated with a whale monitoring workshop conducted by New York Heritage Program, including:
 - Whale Workshop Notes: 1/16/14
 - Options for Monitoring Whales in the New York Bight
 - Agenda for workshop on Whale Monitoring in the New York Bight
 - List of workshop attendees

IV. Key Outcomes

Below is a summary of the main topics and items discussed during the meeting. This summary is not intended to be a meeting transcript and is not necessarily in chronological order of discussions. Rather, it provides an overview of the main topics covered, the primary points and options raised in the discussions, and areas of full or emerging consensus.

A. Welcome and Meeting Kick Off

The meeting kicked off with a brief review of the meeting purpose and agenda. The Team agreed to adjust the agenda to accommodate C. Good's availability during the early portion of the morning.

B. SEIT Business

Fall Meeting Date. The fall meeting will take place sometime during the October 21-24 timeframe contingent upon venue availability. Venue options include Jekyll Island, Jacksonville Zoo, St. Augustine (Guana Tolomato Matanzas National Estuarine Research Reserve), Charleston, etc.

Terms of Reference. B. Zoodsma noted that the proposed revisions to the Terms of Reference (TOR) were based mostly on previous SEIT conversations. The revised TOR was intended to capture those ideas/proposals in one location and clarify SEIT operational matters for the Team, agency, and observers. She then asked if the team could “live with” the proposed revisions. There was consensus among Team members that they could.

C. Focused Discussions

Mid-Atlantic Right Whale Recovery

B. Zoodsma reviewed feedback she obtained from NMFS colleagues on the mid-Atlantic strategy. Main points included:

- Recovery efforts in the mid-Atlantic will be a NMFS priority for at least the next few years, so timing of the strategy is good.
- The SEIT had previously noted (2013) the importance of better understanding the most effective surveillance methods in the MAUS and had recommended that a retrospective analysis of monitoring efforts (visual and acoustic) be conducted asap. Some of the tasks are underway –for example, NEFSC is in the process of conducting a retrospective analysis of PAM collected in the mid-Atlantic. The SEFSC has contracted with C. Good to investigate many of the items contained within the strategy (pathways used by right whales to navigate Cape Hatteras, habitat use, and migratory timeframes; examine when and where surveys have been flown; literature search; etc. These activities are an indicator that NMFS concurs with the priority tasks in the mid-Atlantic strategy.
- Use explicit language and task numbers from the recovery plan step down outline. Include budget estimation and task progress going forward.
- The strategy identified some key information gaps/needs.

The Team then discussed moving the strategy from a development phase to more of an action plan. As part of this discussion, C. Good listed those tasks in the mid-Atlantic recovery strategy that she thought she would accomplish/provide:

- Survey effort distribution -Decade by decade, Seasonal breakdown of effort.
- Will look at swim speeds to determine how quickly an animal can move through the mid-Atlantic.
- Habitat assessment -Pulling out this information by demographic segment and seasonal use, if possible. This work also involves looking at water temperature to determine optimal routing. She will also look into zooplankton/habitat cues –such as the North Atlantic Oscillation/Bermuda High (may be better index for closer to shore). There was a brief discussion on whether all observations of right whales with opened mouths

represented feeding. Some Team members suggested right whales may swim with open mouths for heat-dumping purposes.

- Effects of climate change –might be able to obtain insights by looking at historic sightings compared to current sightings. Can also look at changes in water temperature over time. The recently issued NOAA Fisheries NEFSC press release on ocean temperatures may be informative.¹
- In summary, the literature search is almost completed. A final report is anticipated in early fall.

Things she would not be doing include:

- Comparing different right whale monitoring tools relative to each other (acoustic vs aerial vs. vessel surveys). C. Good noted that the results from S. VanParijs, NEFSC, work using a standardized detector to analyze existing acoustic data was an important data input into any comparative exercise.
- Residency assessment –doesn't believe there is enough data to determine this in the MAUS.

B. Zoodsma inquired about any possible constraints that C. Good was encountering. C. Good mentioned there are challenges associated with acquiring some data. She would like to incorporate data presently being collected such as from wind energy site assessment surveys (acoustic and air surveys). Some of these datasets are fairly robust and worth waiting for. Some of the points of contact for these data are very busy and some are apprehensive about sharing data (e.g. Massachusetts and New Jersey). SEIT members and B. Zoodsma offered assistance. One Team member commented that one option may be to move forward without the MA data.

Other miscellaneous items from C. Good regarding her current work: She noted that there were more sightings off North Carolina than most people realize and whales tend to hug the Capes just under the "hooks." Most of the effort was conducted in winter. Her contract ends late October. She intends to deliver a "giant report," with maps, that includes an interpretation of migratory corridor, habitat use, SPUE, and seasonal use. Her report could also identify data gaps in MAUS. Ultimately, she would like to publish a peer-reviewed paper on her findings. The timeframe of that is constrained by the length of time it takes to acquire desired datasets. She can present her results at the fall meeting.

While C. Good was still available, the Team discussed possible next steps for work in the mid-Atlantic.

- Consolidate anthropogenic use data including vessel traffic (marine cadastre may have data of interest, PARS, etc.), offshore energy development areas, etc. This could contribute to a risk assessment.

¹ Subsequent to the meeting the following URL was supplied:
http://www.nefsc.noaa.gov/press_release/pr2014/scispot/ss1404/

- To move forward with a comparison of right whale monitoring tools, the Team noted it was important to know what products will be produced at the end of the NEFSC work on analyzing mid-Atlantic acoustic data and timeframes.
- Increase education and outreach in the mid-Atlantic –the SEIT’s education and outreach strategy might be helpful in this regard.
- Cultivate increased involvement by potential right whale recovery partners in the mid-Atlantic.
- Investigate NARW use of Hatteras “pinch” (between the Cape and Gulf Stream) and presence of potential threats in that area. Team members suspect that whales and human activity may be focused in that small region thereby making the area more risky to right whales.

Right Whale Tagging Study

L. Garrison briefly reviewed a 3-year collaborative right whale tagging study between GDNR, SEFSC, FWC, and Russ Andrews. During the first year, there would be minimal tag anchor design and deployment. During the second year, there would likely be additional tag attachment design, perhaps tag design, and deployment. During the 3rd year, the team hopes to be able to deploy GPS tags and obtain greater information on animal movements –with the goal of collecting movement information along the mid-Atlantic. The goal is to achieve 30-day deployments. Existing limpet tags are included in SEFSC permit, major changes to tag would need to be addressed in a permit modification.

One team member recommended that monitoring of tissue response to tagging be included as part of the study.

Forum Review:

L. Ward ran through the presentations for day 1 for Team deliberation. Deliberations included the following key points:

- The Team deliberated quite extensively on the manatee core biological model which had been briefly overviewed during the Forum. The model provides a mechanism for resource managers to model population level responses to various threats and management actions. The Team raised many questions regarding similar work for right whales: Is the agency doing something similar for right whales (producing an analytical strategy for assessing population status and trends) ? Are data collection protocols optimized such that the quantitative information on population status is timely and of sufficient precision? If not, how is the recovery plan being evaluated? Are there gaps in population metric information? One member questioned if this was something that needed to be done since right whales are so far away from being downlisted and the population is so small. However, others countered that we need an equation that we can look at every year to help us understand impacts from the most pressing threats, responses to management actions, and evidence of potential progress towards recovery. All of the component parts are being collected already -just need to put it all together. One member mentioned the need for an operational model.

- The fact that a second wave of animals comes down into the Southeast U.S. calving area later in the calving season is interesting and highly useful information. The Team looks forward to seeing the work presented by A. Krzystan *et al.* completed and published.
- Many Team members were skeptical that right whales would be present in the Jacksonville USWTR range year-round. Gunshot calls were reported year-round; however, it's challenging to assign species based on gunshot call detections. Consequently, the Team thought it might be worthwhile to investigate these findings further.
- The Dtag study was finding that mother/calf pairs spend a large proportion of time resting (76%). Team noted concerns/implications regarding protection.
- A few operational-related topics were discussed:
 - The "Open Floor" timeframe needs to be defined to level expectations on what the agenda slot is for. Ground rules should also be established –including a 5 minute time limit.
 - The SEIT appreciates the opportunity to learn about work being conducted relative to right whale recovery in the Southeast U.S. Because this work can be preliminary in nature, the SEIT does not support that presentations be made available to the public. However, meeting organizers will request that speakers provide their email addresses at the end of their presentations and individuals can contact speakers directly to request copies of their presentations or further discuss topic.
- T. Jordan-Sellers gave an excellent overview of the ACOE-related aspects of the "We Can't Wait" Initiative. The Team then discussed deeper ports, larger vessels, and the likelihood that hydrodynamics would be different between ships of various sizes.
- Not much for the SEIT to currently act on relative to the SAFMC's discussions on proposed Regulatory Amendment 16 to the Snapper-Grouper Fishery Management Plan. However, Team members requested updates on the rulemaking timeline. The idea of mandatory reporting of gear loss was raised.
- The Team deliberated on whether to recommend that NMFS include the ship speed rule seasonal management areas on nautical charts (print on demand, etc.) now that the rule's sunset clause was eliminated. J. McLaughlin recommended that if chart clutter was a concern, the right whale critical habitat boundaries should be removed because they don't have any navigational implications. It was not clear if federal marine users (i.e. Navy and Coast Guard) use critical habitat boundaries for any of their navigational purposes or if ALWTRP measures coincide with critical habitat areas. Regardless to these concerns, the point was made that the existing critical habitat is too limited in scope and doesn't adequately represent right whale distribution. A formal SEIT recommendation will be withheld pending acquisition of additional information from the federal agencies on possible uses of critical habitat boundaries.
- The Team also deliberated on aligning the WHALESSOUTH MSR and SMA boundaries. The USCG would want concurrence from NOAA Fisheries and it would likely include a total rule update. This idea did not gain traction with the SEIT.

- D. Reeb, BOEM, did a great job in presenting exactly what was requested by meeting organizers. There is a lot going on in offshore energy development. The right whale calving area should be approached with extreme caution relative to offshore energy development. B. Zoodsma mentioned she was going to investigate whether she could be involved with NC, SC, GA and FL offshore energy taskforces. The Team discussed that it would be useful if the BOEM monitoring efforts were a comprehensive effort (i.e. East Coast wide). However, members suspected that the monitoring efforts were likely piecemealed together by project. The NMFS SERO should consider adding a BOEM representative to the SEIT.
- The Team noted T. Gowan's recommendation that photo ID data for the 2013/2014 survey season be linked to the effort data to assess the spatial distribution of different individuals. The Team also discussed a proposal put forth by J. Hain during the Forum to include his aircam in the aerial survey design. It was noted that the platform, observer, and pilot configurations were so different from other survey planes that the effort data could not be included with effort data collected by the other survey teams. However, the aircam could be a useful platform to supplement existing efforts to collect photo ID information. The Team agreed that the proposal had merit but technical information from J. Hain on the plane's capabilities would be needed in order for it to be explored further; however, aligning expectations on how potential aircam-generated information could or could not be used was important.

Aerial Surveys

The predictive models generated for aerial survey planning should be used as a guide for identifying transects that should be flown. The models are not intended to be strictly adhered to. There may be other small scale variables affecting right whale distribution and the teams should be able to respond to those.

The SEIT recommended a technical team to consider such things as:

- Should teams respond on a real time basis to such things as cold fronts
- Decision rules for determining what lines to fly if the number of lines that have a high predicted abundance of whales exceeds the flight capabilities of two teams.
- Incorporating the aircam into survey design.
- To ensure integrity of objective 1 (population vital rates) is not impacted by flexibility in effort.

Contingency Funding Ideas

B. Zoodsma requested project ideas from the SEIT in the event miscellaneous funding for right whale recovery became availability. She requested items that varied in cost. The following list was generated by the Team:

1. Consolidate information/data on anthropogenic activities in the mid-Atlantic.
2. Monitoring in the "pinch" area off Cape Hatteras.
3. Investigation into unique right whale photo ID captures –determine the spatial distribution of unique animal sightings for use in air survey planning.

4. Necropsy funding.
5. Fund an additional New England Aquarium staff position to assist with catalog.
6. Support for real-time photo-id matching in the Southeast U.S.
7. Support for right whale genetics work at Trent University.
8. Provide education materials for Coast Guard auxiliary boating safety courses. The USCG auxiliary has a clearing house that can distribute materials to all auxiliary units—they just can't pay for items.
9. Inventory and maintain educational signs. Consider revising signs to include speed restrictions.
10. Integrated meeting with NEFSC and NERO to discuss cross regional recovery challenges (MAUS blackhole).
11. Investigation into month-by-month movements of entangled whales to investigate entanglement origins.
12. Contract a marketing specialist to identify methods and assist in distributing information out to large recreational yachts.
13. Produce post cards/signs that can be posted at commercial fuel docks (where large recreational yachts are likely to fuel up).
14. Reach out to companies that may insure large recreational yachts.

D. Consensus Actions

1. B. Zoodsma will touch base with Sofie Van Parijs regarding the deliverables/products and timeframes that are anticipated from her work on analyzing the mid-Atlantic acoustic data.
2. K. Moore will investigate status of East Coast Port Access Route Study conducted by Coast Guard.
3. B. Zoodsma will consult SEIT Outreach strategy and assess if any items can be used for the MAUS (outreach gap analysis).
4. B. McLellan will talk to NPS, Aquarium, and North Carolina Wildlife Resources Commission about their interest in outreach and education and participation in mid-Atlantic working group. Will touch base with B. Zoodsma about level of interest.
5. SEFSC will review Biowaves report and, if necessary, contact Biowaves about year-round gunshot calls that were detected in the Jacksonville USWTR.
6. B. Zoodsma: Draft "Open Floor" definition and ground rules for SEIT consideration.
7. B. Zoodsma will keep the SEIT updated on timeline of Amendment 16.
8. N. Allen and K. Moore will investigate with Navy and Coast Guard, respectively, to determine if their agencies use critical habitat illustration on nautical charts (i.e. rely on nautical chart illustration of ch for anything). B. Zoodsma will investigate same relative to the ALWTRP boundaries.
9. B. Zoodsma will investigate joining task forces for NC, SC, GA, and FL offshore energy projects.
10. FWC, GDNR, and NEA will link photo ID data to 2013/2014 surveys to visually assess spatial distribution of individual right whales.

E. Consensus Recommendations

1. Consolidate data on anthropogenic activities in the mid-Atlantic (e.g. synthesized AIS data).
2. Consider additions to the SEIT: a) a North Carolina representative (similar to GDNR representative) to coordinate and assist with outreach and other recovery activities, and b) a BOEM representative since BOEM is so active along the East Coast.
3. An operational model be developed to evaluate right whale status relative to federal plan recovery criteria. This work should also include an evaluation of the Caswell model, J. Martin model, etc.
4. Establish a technical team to flesh out aerial survey plans for next year.
5. Ensure expectations are aligned between NMFS and J. Hain relative to potential aerial survey data use.



F. Other and Public Comment

A teleconference to discuss the fall agenda will be scheduled sometime during the 3rd week of July, last week of July, or 1st few days of August. Relative to the fall meeting, a few agenda items came up during this meeting. Those ideas included an update from UF Sea Grant recreational vessel study and providing feedback to the SEIT on any tasks from the SEIT's outreach strategy that may be appropriate for implementation in the mid-Atlantic.

Following the first day of the SEIT meeting, J. Hain emailed SEIT members with additional information on his proposal for the aircam to be included in aerial survey planning/design. That proposal was discussed and L. Ward will respond to the email on behalf of the SEIT.

The SEIT meeting adjourned prior to discussing cumulative impacts.

Addendum added 12/18/2014, provided by Nancy Allen:

Addendum Footnote:

The following comments were received from Jene Nissen-USFF in regards to the June 10-11, 2014 Key Outcomes Memorandum (Section Forum Review).

The U.S. Fleet monitoring project conducted by Biowaves did not have year round NARW presence; the MARUs were deployed and collecting data - 9/12/2009-10/9/2009 and 12/3/2009-1/7/2010. The analysis report from these deployments is available for download from the web portal (http://www.navymarinespeciesmonitoring.us/index.php/download_file/view/280) and we also have another report coming out in the next month or two that looked at these data sets again for the purpose of developing statistical methods to assess acoustic response but Cornell has determined that many of the sounds previously characterized as gunshots are likely something else. Biowaves is USFF funded to support Fleet monitoring for this work and additional information can be proved by contacting Joel Bell or Jene Nissen-USFF.

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AGENDA DAY 1 - FORUM

Meeting Goal: Review the status of ongoing SE recovery activities and identify emerging issues

Meeting Objectives:

1. Review recent studies and upcoming monitoring activities
2. Review recovery activities implemented since last meeting
3. Obtain updates from recovery partners
4. Develop and provide input for SEIT consideration

Time	Topic	Speaker
09:00 - 09:15	Welcome and Introductions <ul style="list-style-type: none"> • Review purpose and objectives of meeting • Housekeeping • Review Agenda • Round-robin Introductions 	T. Pitchford
9:15 – 10:20	Field Season Reviews <ul style="list-style-type: none"> • Review of NE Field season 2013/CCB surveys • Recap of SEIT Aerial Survey Strategic Plan • Review of New Survey Approach • Review of Habitat Model • Winter 2014 Survey Results 	A. Knowlton L. Ward B. Zoodsma T. Gowan K. Jackson
10:20-10:30	BREAK – 10 minutes	
10:30-11:05	<ul style="list-style-type: none"> • Discussion-analytical needs to inform survey improvements • Core Biological Model- example of analytical approach for assessing a marine mammal population 	All J. Martin
11:05-12:15	Mid-Atlantic Updates <ul style="list-style-type: none"> • Mid-Atlantic Retrospective Data Review • Mid-Atlantic Survey Updates • Western Atlantic passive acoustic analysis of baleen whale presence and distribution – plans for analysis • Residency Patterns-preliminary assessment/plans Discussion	C. Good W. McLellan S. Van Parijs A. Krzystan
12:15-1:00	LUNCH – 45 min (Open Floor) Afternoon agenda on back	Provided

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1:00-2:10	Analysis Updates <ul style="list-style-type: none"> • Bio-waves • Assessing impacts of offshore energy development/data gaps • Entanglement Rates/Prop wound analysis • DTAG Projects Discussion	J. Nissen S. Young A. Knowlton S. Parks
2:10-2:20	BREAK – 10 minutes	
2:20-3:10	Agency Updates <ul style="list-style-type: none"> • SAFMC: Status of Snapper-Grouper Reg Amend 16 • SERO • SERO Shipping Liaison • SEFSC Discussion	K. MacLauchlin B. Zoodsma J. McLaughlin L. Garrison All
3:10-3:20	Break	
3:20-4:20	<ul style="list-style-type: none"> • BOEM • USACE • USCG • Navy Discussion	D. Reeb T. Jordan-Sellers J. Monreal-Berner J. Nissen All
4:20-4:40	SEIT <ul style="list-style-type: none"> • Updates/Discussion 	L. Ward/All
4:40-4:50	Closing Remarks and Adjourn	T. Pitchford



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Agenda Day 2: Deliberations

Time	Items
09:00-10:30	<ul style="list-style-type: none"> • Next Meeting Date • Overview today's agenda • Forum/emerging issues review (excl. air survey design)
10:30-10:45	Break
10:45-12:00	<p>Aerial Survey: Revised methods, update</p> <ul style="list-style-type: none"> • Questions/Discussion on Lessons Learned • Analysis Needs/Discussion on plans for 2014 • Next Steps
12:00-12:15	Break/working lunch
12:15-1:30	<p>Mid-Atlantic U.S. – continued discussion—</p> <ul style="list-style-type: none"> • Draft framework feedback (Barb) • Feedback from Lance on post-doc position/timeframe, next steps in assessing priority objective(s) for MAUS per draft SEIT strategy: <ul style="list-style-type: none"> “Characterize habitat use patterns to improve knowledge of seasonal attendance and distribution patterns in the MAUS. Detect potential changes in habitat use (e.g., due to climate change, habitat degradation, anthropogenic impacts)” • Suggestions re: future analyses, approaches/methods, tools to best address key objectives
1:30-1:40	Break
1:40-2:00	Contingency Funding Ideas
2:00 –2:50	<p>Cumulative Impacts</p> <ul style="list-style-type: none"> • Discuss need to track, analytical approaches to better understand and monitor <p>OR</p> <ul style="list-style-type: none"> • Offshore Energy –Potential impacts and information needs
2:50 -3:30	Recap priority issues or recommendations, next steps
3:30-3:40	Wrap up